REPLACEMENT DRAWINGS

Attached hereto are replacement drawings for figure 2, without any markings. The changes to the drawings are explained below, in the "REMARKS" section. All of the drawings on the replacement sheet, as originally filed, are provided herein. The header of each revised drawing sheet includes the following information: (i) "Replacement Sheet", (ii) application number and (iii) date information. The Examiner is requested to provide an indication of such consideration in the next Office Action.

REMARKS

Claims 1-18 are currently pending in the application. By this amendment, the specification and drawings are also revised. The above amendments do not add new matter to the application and are fully supported by the specification. Reconsideration of the rejected claims in view of the above amendments and the following remarks is respectfully requested.

Objection to Drawings

The drawings were objected to for not showing certain features of the claimed invention. Applicants partially traverse this objection.

Figure 2 is revised to change reference numeral 122a to reference numeral 123a. This should satisfy the Examiner's objection as outlined at pages 2 and 3, paragraph 2, of the office action.

As to the objection noted in paragraph 1, at page 2, Applicants submit that Figure 2 is revised to show a generic "box" representation of the mechanism to rotate the pallet. The specification is also revised to denote the generic "box" representation as "R". It is brought to the attention of the Examiner that Figure 2, as originally filed shows arrow "A" which clearly depicts the rotation of the pallet. Also, the specification clearly describes the feature "R". Accordingly, no new matter is added by the amendment to the specification or the drawings.

More specifically, the rotatable feature of the pallet, as noted at the paragraph spanning pages 6 and 7, clearly discloses that the mechanism to rotate the pallet is a conventional mechanism. For example,

> ... rotation may be effected by a gear system, a belt and gear system or other known mechanisms.

Also, in accordance with MPEP 608.02(d), the conventional feature disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, can be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (*e.g.*, a labeled rectangular box). Applicants submit that the rotation mechanism may be a gear system, belt and gear system or other known mechanism. These mechanisms are common and a detailed illustration is not required. Accordingly, Figure 2 complies with MPEP 608.02(d).

Applicants request withdrawal of the objection to the drawings.

35 U.S.C. §112 Rejection

Claims 1-18 were rejected under 35 U.S.C. §112, 1st paragraph. This rejection is respectfully traversed.

The Examiner alleges that the specification and the drawings do not provide enough detail as to how the tilt head 124 is pivotally connected to the pallet lift 123. According to the Examiner, the drawings show the lift head 124 above and unattached to the platform. Secondly, the Examiner is of the opinion that the specification and drawings do not provide any level of detail as to how the separation conveyor 127 moves into the separation space at the platform 123. Applicants respectfully disagree with the Examiner, as to both parts of this rejection.

As to the first part of the rejection, the specification at page 7 clearly discloses that the tilt head 124 is mounted to the pallet lift 123 by a hinge 125. More specifically, the first full paragraph at page 7 discloses, in part

> .... The depalletizer subsystem 120 further includes a tilt head 124, which may be hinge mounted to the pallet lift conveyor 123 by a hinge 125 or mounted in another conventional manner.
> (Emphasis added)

And, the hinge is clearly shown in Figure 2, as a rectangular box which is labeled as reference numeral 125. Applicants submit that a hinge is a well known conventional feature which does not have to be shown in detail. Thus, in accordance with MPEP 608.02(d), Applicants submit that the conventional feature of the hinge can be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (*e.g.*, a labeled rectangular box). This is clearly the present case, e.g., the hinge is represented as a rectangular box.

One of skill in the art would readily understand, from reading the disclosure, that the hinge mount may work in many different ways, all of which are conventional. In one example, the hinge may be mounted to the same structure in which the pallet lift conveyor is mounted such as, the floor. Alternatively, the hinge may be mounted to some other structure such as, for example, a nearby wall or ceiling. In these manners, the tilt head is capable of tilting at angles in order to permit the tilt head to pick up the top layer of product such that the separation conveyor can be inserted between layers of product, and thereafter, the top layer can be placed on the separation conveyor for takeaway. Since these features are so conventional and one of skill in the art would readily be able to implement the hinge mount, it is submitted that these features do not have to be explicitly shown in detail in the figures. (See, MPEP 608.020(d) and 37 CFR 1.83(a).)

As to the second part of the rejection, the specification and drawings are clear and definite in order to provide one of skill in the art the level of detail so as to enable one of skill as to how the separation conveyor 127 moves into the separation space at the platform 123. For example, Figure 5 shows a schematic view of the separation conveyor. Additionally, the specification at page 10 discloses, in part

> ... the separator/conveyor 127 includes an arm portion 128 having rollers or other conveying mechanism 129. The arm 128 is designed to extend into the separation space provided by the tilt head and the conveyor mechanism 129 .... The arm 128 may be

> retracted and extended by any known mechanism such as by rotation, sliding, etc.

Applicants submit that the specification clearly discloses that the arm 128 may be retracted and extended by any known mechanism such as by rotation, sliding, etc. Because the movement may be by any known mechanism, Applicants submit that there is no requirement to describe the mechanism in detail, since it is already known. For example, in accordance with MPEP 2164.05(a),

> The specification need not disclose what is well-known to those skilled in the art and preferably omits that which is well-known to those skilled and already available to the public. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987); and *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1463, 221 USPQ 481, 489 (Fed. Cir. 1984).
>
> (Emphasis added)

Accordingly, Applicants respectfully request that the rejection over claims 1-18 be withdrawn.

35 U.S.C. §102 Rejection

Claims 1-6, 8, 11, 13-16 and 18 were rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 5,222,857 to Hasegawa. This rejection is respectfully traversed.

The present invention is directed to a feeding mechanism and method of use and, more particularly, to a mechanism for loading and feeding mail objects such as letters, packages and flats to a sorting mechanism for future sorting of such mail objects. In one aspect of the invention, the apparatus includes, amongst other features,

> a head mechanism having a holding device for lifting a top layer of bundled product in a first orientation from the pallet to provide a separation space between the top layer of bundled product and a next, lower layer of bundled product on the pallet; and
>
> a conveyor mechanism, extendible into the separation space, which conveys the top layer of product away from the pallet when the top layer of bundled product is lowered thereon.
> (Emphasis Added)
> (Claim 1)

In aspects of the invention, the head mechanism is a tilt head mechanism and the holding device is one of a vacuum source to produce a suction force and a pair of opposing arms moveable between a first position and a second, closer position to lift and lower the top layer of bundled product. (Claim 4)

In another aspect of the invention, the apparatus of claim 13 includes, amongst other features,

> means for providing a separation space between a top layer of the bundled product and an adjacent lower layer of bundled product or the pallet;
>
> means for transporting the top layer of the bundled product, in a first orientation, separated from the adjacent lower layer of bundled product or the pallet, to at least one feeding device.
> (Emphasis added.)

In further aspects of the invention, the separation means drops the top layer of bundled product onto the transporting means. (Claim 14). The separation means is one of a vacuum and moveable opposing arms capable of lifting the top layer of bundled product.

In order to reject a claim under 35 U.S.C. § 102, a single prior art reference must contain each and every limitation of the claim, either expressly or under the doctrine of inherency. *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1570 (Fed. Circ), cert. denied, 488 U.S. 892 (1988). If an element is written as a means-plus-function element, the reference, in order to contain the element, must expressly or inherently perform a function identical to that of the means element, and the reference's structure for performing the function is equivalent to that disclosed in the subject specification. *In re Donaldson Company, Inc.*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994). MPEP § 2182. If there is no identity of function then the reference does not contain the element. Id. Applicants submit that the Hasegawa reference does not meet these standards and that the § 102 rejection is improper and should be withdrawn.

In the apparatus of Hasegawa, as shown in FIG. 2, the apparatus includes an unloading zone 1, a loading zone 2 juxtaposed to it, and a table 5 which can reciprocate above and between the zones 1 and 2 along a rail 4 on a main framework 3. The unloading zone 1 is provided with a conveyor 6 for charging a pallet P1 carrying a stack of layers of a load W, and a lift 7 for lifting the pallet P1 to raise the load W layer by layer to a level of height corresponding to that of the reciprocating table 5. The reciprocating table 5 includes a multiplicity of carriage rollers 10 constituting a roller conveyor, and is adapted to pick up the load W layer by layer in the unloading zone 1 and transfer it to the loading zone 2. The carriage does not provide a separation space so that a conveyor can move the load. The carriage rollers 10 include two top carriage rollers 10a located at the end of the table 5 close to the unloading zone 1 and adapted for rotation by a motor 14 and a drive chain 15, while the other carriage rollers 10 are freely rotatable.

The Examiner provides drawings of FIGS 4a to 4c showing the assembly, including the carriage rollers 10 and associated assembly, e.g., upper stopper 23. However, as discussed in greater detail below, these carriage rollers (and assemblies) are not the same or equivalent to, for example,

> a head mechanism having a holding device for lifting a top layer of bundled product in a first orientation from the pallet to provide a separation space between the top layer of bundled product and a next, lower layer of bundled product on the pallet ...
> (Claim 1)
>
> ...means for providing a separation space between a top layer of the bundled product and an adjacent lower layer of bundled product or the pallet...
> (Claim 13)

In operation, as shown in FIGS. 4a and 4b, reproduced below, the carriage rollers 10 are advanced toward the product. During this advancement, a top layer of the product is at the approximate height as the carriage rollers 10. As the carriage rollers 10 advance toward the top layer of the product, as shown in FIG. 4b, the carriage rollers 10 will begin to move underneath the product, while the stop arm 23 prevents movement of the product. As the carriage rollers 10 further advance, a single layer of the product will be moved onto the carriage rollers 10. However, as very clearly seen, there is no holding device for lifting a top layer of bundled product to provide a separation space between the top layer of bundled product and a next, lower layer so that a conveyor can then be placed within the separation area. Instead, the carriage rollers 10 only advance underneath the top layer and then transport the top layer away from the stack, there is no separation of the product first.

FIG. 4a

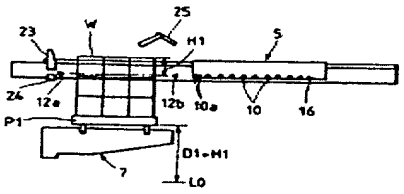
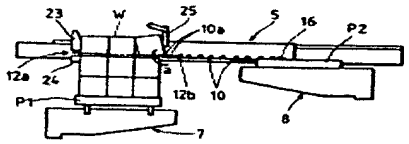


FIG. 4b



Thus, it is readily apparent that Hasegawa does not include a head mechanism having a holding device for lifting a top layer of bundled product in a first orientation from the pallet to provide a separation space between the top layer of bundled product and a next, lower layer of bundled product on the pallet. Instead, Hasegawa shows the carriage rollers 10 merely moving underneath the stack of product. Applicants submit that the carriage rollers are actually akin to the claimed conveyor mechanism, and that there is no holding device, in Hasegawa, to provide a separation space.

Applicants further submit that the carriage rollers 10 have its disadvantages. For example, it would not be easy to lift a single layer of flat bundles or thin mail objects using this mechanism. By way of illustration, the carriage rollers 10 would not be able to move underneath the top layer, without the top layer first being separated by a lower layer, especially in view of the fact that the carriage rollers 10 have an outer surface coated with rubber, such as urethane or vinyl rubber, to produce a large friction force. This large friction force would, in turn, not allow for the carriage to pick up a lightweight piece of article. The stoppers, most likely, would not be effective in holding the thinner objects, while the carriage rollers try to move under the thinner object.

Applicants further submit that the carriage rollers 10, or any other feature of Hasegawa, do not expressly or inherently perform a function identical to that of the means element, nor are the carriage rollers 10 an equivalent structure to that disclosed in the subject specification. *In re Donaldson Company, Inc.*, 16 F.3d 1189, 29 USPQ2d

1845 (Fed. Cir. 1994). MPEP § 2182. By way of explanation, as discussed above, the carriage rollers do not hold and lift the product to provide a separation between the product so that a conveyor can be placed therebetween. The carriage rollers 10 only move underneath the single layer of product, but they do not hold and separate the top layer from a lower layer, in order for a conveyor to move the product. In fact, Applicants submit that the carriage rollers 10 would be equivalent in structure and function only to the means for transporting the top layer of the bundled product, in a first orientation, separated from the adjacent lower layer of bundled product or the pallet, to at least one feeding device.

As to the structure of the carriage rollers, this structure also in not equivalent to that of the claimed invention. The specification clearly describes the means for providing a separation space between a top layer of the bundled product and an adjacent lower layer of bundled product or the pallet as either a vacuum head or a pair of opposing arms. None of these structures are close to that of the carriage rollers.

Accordingly, Applicants respectfully request that the rejection over claims 1-6, 8, 11, 13-16 and 18 be withdrawn.

35 U.S.C. §103 Rejection

Claim 7 was rejected under 35 U.S.C. §103(a) for being unpatentable over Hasegawa and U.S. Patent No. 5,427,252 to Teegarden. Claims 9, 10 and 17 were rejected under 35 U.S.C. §103(a) for being unpatentable over Hasegawa in view of U.S. Patent No. 4,119,219 to Carlson. These rejections are respectfully traversed.

These claims depend from allowable base claims and thus should also be in condition for allowance. Accordingly, Applicants respectfully request that the rejection over claims 7, 9, 10 and 17 be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicant hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 19-0089.

Respectfully submitted,

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